WHAT IS CLAIMED IS:

1. An apparatus for monitoring a size of a particle, comprising:

(a) a laser beam source which radiates a laser beam to an area in which particles exist;

(b) a photodetector which receives said laser beam having been scattered by said particles, and outputs image data including brightness of pixels;

(c) an area detector which detects pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) a maximum brightness detector which detects a maximum brightness among brightness of said pixels detected by said area detector; and

(e) a measurement unit which compares said maximum brightness to a predetermined threshold brightness to thereby measure a relative size of said particles.

2. The apparatus as set forth in claim 1, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

3. The apparatus as set forth in claim 1, further comprising a second measurement unit which measures an intensity of said scattered laser beam, based on said maximum brightness, and measures a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

4. The apparatus as set forth in claim 3, wherein said particles are generated in fabrication of a semiconductor device, and further comprising a third measurement unit which judges whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device, and which ceases fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

5. The apparatus as set forth in claim 1, further comprising a scanner which scans said laser beam emitted from said laser beam source.

6. The apparatus as set forth in claim 1, wherein said photodetector includes a charge coupled device camera comprised of a plurality of light-receiving devices arranged in a matrix.

7. The apparatus as set forth in claim 1, further comprising a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

8. The apparatus as set forth in claim 1, further comprising a heater for heating a chamber in which said particle is generated, to remove by-products from said chamber.

9. An apparatus for monitoring a size of a particle, comprising:

(a) a laser beam source which radiates a laser beam to an area in which particles exist;

(b) a photodetector receiving said laser beam having been scattered by said

particles, and outputting image data including brightness of pixels;

(c) an area detector which detects pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) a counter which counts the number of said pixels detected by said area detector; and

(e) a measurement unit which compares said number of said pixels to a predetermined threshold number to thereby measure a relative size of said particles.

10. The apparatus as set forth in claim 9, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

11. The apparatus as set forth in claim 9, further comprising a scanner which scans said laser beam emitted from said laser beam source.

12. The apparatus as set forth in claim 9, wherein said photodetector includes a charge coupled device camera comprised of a plurality of light-receiving devices arranged in a matrix.

13. The apparatus as set forth in claim 9, further comprising a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

14. The apparatus as set forth in claim 9, further comprising a heater for heating a chamber in which said particle is generated, to remove by-products from said chamber.

15. An apparatus for monitoring a size of a particle, comprising:

(a) a laser beam source which radiates a laser beam to an area in which particles exist;

(b) a photodetector receiving said laser beam having been scattered by said particles, and outputting image data including brightness of pixels;

(c) an area detector which detects pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) a calculator which calculates a total of brightness of said pixels detected by said area detector; and

(e) a measurement unit which compares said total to a predetermined threshold brightness to thereby measure a relative size of said particles.

16. The apparatus as set forth in claim 15, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

17. The apparatus as set forth in claim 15, wherein said calculator is comprised of:

(d1) a maximum brightness detector which detects a maximum brightness among brightness of said pixels detected by said area detector; and

(d2) a counter which counts the number of said pixels detected by said area

detector,

and wherein said measurement unit compares said maximum brightness or said number of said pixels to a predetermined threshold brightness or a predetermined threshold number to thereby measure a relative size of said particles.

18. The apparatus as set forth in claim 15, wherein said calculator is comprised of:

(d1) a maximum brightness detector which detects a maximum brightness among brightness of said pixels detected by said area detector; and

(d2) a counter which counts the number of said pixels detected by said area detector,

and wherein said measurement unit uses said total and at least one of said maximum brightness an said number of said pixels for measuring a relative size of said particles.

19. The apparatus as set forth in claim 15, further comprising a scanner which scans said laser beam emitted from said laser beam source.

20. The apparatus as set forth in claim 15, wherein said photodetector includes a charge coupled device camera comprised of a plurality of light-receiving devices arranged in a matrix.

21. The apparatus as set forth in claim 15, further comprising a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

22. The apparatus as set forth in claim 15, further comprising a heater for

heating a chamber in which said particle is generated, to remove by-products from said chamber.

23. An apparatus for monitoring a size of a particle, comprising:

(a) a laser beam source which radiates a laser beam to an area in which particles exist;

(b) a photodetector receiving said laser beam having been scattered by said particles, and outputting image data including brightness of pixels;

(c) an area detector which detects pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) a first measurement unit which measures an intensity of said scattered laser beam, based on brightness of said pixels detected by said area detector; and

(e) a second measurement unit which measures a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

24. The apparatus as set forth in claim 23, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

25. The apparatus as set forth in claim 23, wherein said particles are generated in fabrication of a semiconductor device, and further comprising a third measurement unit which judges whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said

particles would exert harmful influence on a semiconductor device, and which ceases fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

26. The apparatus as set forth in claim 23, further comprising a scanner which scans said laser beam emitted from said laser beam source.

27. The apparatus as set forth in claim 23, wherein said photodetector includes a charge coupled device camera comprised of a plurality of light-receiving devices arranged in a matrix.

28. The apparatus as set forth in claim 23, further comprising a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

29. The apparatus as set forth in claim 23, wherein said second measurement unit includes a memory which stores a software program used for calculating a size of a particle in accordance with the equation of Rayleigh scattering, and a threshold size to which a calculated size is to be compared.

30. The apparatus as set forth in claim 29, wherein said threshold size is equal to or smaller than a minimum diameter among diameters of wirings in a semiconductor device to be fabricated.

31. The apparatus as set forth in claim 23, further comprising a heater for heating a chamber in which said particle is generated, to remove by-products from said chamber.

32. A method of monitoring a size of a particle, comprising the steps of:

(a) radiating a laser beam to an area in which particles exist;

(b) receiving said laser beam having been scattered by said particles, and outputting image data including brightness of pixels;

(c) detecting pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) detecting a maximum brightness among brightness of said pixels detected in said step (c); and

(e) comparing said maximum brightness to a predetermined threshold brightness to thereby measure a relative size of said particles.

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33. The method as set forth in claim 32, wherein said step (c) includes the steps of:

(c1) determining a threshold brightness to which brightness of pixels are to be compared;

(c2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(c3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

34. The method as set forth in claim 32, further comprising the steps of:

measuring an intensity of said scattered laser beam, based on said maximum brightness; and

measuring a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

35. The method as set forth in claim 34, wherein said particles are generated in fabrication of a semiconductor device, and further comprising the steps of:

judging whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device; and

ceasing fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

36. The method as set forth in claim 35, further comprising the step of heating a chamber in which said particles are generated, for removing by-products from said chamber.

37. The method as set forth in claim 32, further comprising the step of scanning said laser beam.

38. The method as set forth in claim 32, further comprising the step of counting up each time of receiving a signal transmitted in said step (c), and transmitting a signal indicative of a count.

39. A method of monitoring a size of a particle, comprising the steps of:

(a) radiating a laser beam to an area in which particles exist;

(b) receiving said laser beam having been scattered by said particles, and outputting image data including brightness of pixels;

(c) detecting pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) counting the number of said pixels detected in said step (c); and

(e) comparing said number of said pixels to a predetermined threshold number to thereby measure a relative size of said particles.

40. The method as set forth in claim 39, wherein said step (c) includes the steps of:

(c1) determining a threshold brightness to which brightness of pixels are to be compared;

(c2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(c3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

41. The method as set forth in claim 39, further comprising the step of scanning said laser beam.

42. The method as set forth in claim 39, further comprising the step of counting up each time of receiving a signal transmitted in said step (c), and transmitting a signal indicative of a count.

43. A method of monitoring a size of a particle, comprising the steps of:

(a) radiating a laser beam to an area in which particles exist;

(b) receiving said laser beam having been scattered by said particles, and outputting image data including brightness of pixels;

(c) detecting pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) calculating a total of brightness of said pixels detected in said step (c); and

(e) comparing said total to a predetermined threshold brightness to thereby measure a relative size of said particles.

44. The method as set forth in claim 43, wherein said step (c) includes the steps of:

(c1) determining a threshold brightness to which brightness of pixels are to be compared;

(c2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(c3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

45. The method as set forth in claim 43, wherein said particles are generated in fabrication of a semiconductor device, and further comprising the steps of:

judging whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device; and

ceasing fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

46. The method as set forth in claim 43, further comprising the step of heating a chamber in which said particles are generated, for removing by-products from said chamber.

47. The method as set forth in claim 43, further comprising the step of scanning said laser beam.

48. The method as set forth in claim 43, further comprising the step of counting up each time of receiving a signal transmitted in said step (c), and transmitting a signal indicative of a count.

49. The method as set forth in claim 43, wherein said step (e) includes the step of storing a software program used for calculating a size of a particle in accordance with the equation of Rayleigh scattering, and a threshold size to which a calculated size is to be compared.

50. The method as set forth in claim 49, wherein said threshold size is equal to or smaller than a minimum diameter among diameters of wirings in a semiconductor device to be fabricated.

51. A method of monitoring a size of a particle, comprising the steps of:

(a) radiating a laser beam to an area in which particles exist;

(b) receiving said laser beam having been scattered by said particles, and outputting image data including brightness of pixels;

(c) detecting pixels corresponding to an area on which said scattered laser beam is incident, based on said image data;

(d) measuring an intensity of said scattered laser beam, based on brightness of said pixels detected in said step (c); and

(e) measuring a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

52. The method as set forth in claim 51, wherein said step (c) includes the steps of:

(c1) determining a threshold brightness to which brightness of pixels are to be compared;

(c2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(c3) determining pixels located adjacent to each other among pixels having

been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

53. The method as set forth in claim 51, wherein said particles are generated in fabrication of a semiconductor device, and further comprising the steps of:

judging whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device; and

ceasing fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

54. The method as set forth in claim 53, further comprising the step of heating a chamber in which said particles are generated, for removing by-products from said chamber.

55. The method as set forth in claim 51, further comprising the step of scanning said laser beam.

56. The method as set forth in claim 51, further comprising the step of counting up each time of receiving a signal transmitted in said step (c), and transmitting a signal indicative of a count.

57. The method as set forth in claim 51, wherein said step (e) includes the step of storing a software program used for calculating a size of a particle in accordance with the equation of Rayleigh scattering, and a threshold size to which a calculated size is to be compared.

58. The method as set forth in claim 57, wherein said threshold size is equal

to or smaller than a minimum diameter among diameters of wirings in a semiconductor device to be fabricated.

59. A recording medium readable by a computer, storing a program therein for causing a computer to act as an apparatus for monitoring a size of a particle, said apparatus comprising:

(a) an area detector which detects pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) a maximum brightness detector which detects a maximum brightness among brightness of said pixels detected by said area detector; and

(c) a measurement unit which compares said maximum brightness to a predetermined threshold brightness to thereby measure a relative size of said particles.

60. The recording medium as set forth in claim 59, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

61. The recording medium as set forth in claim 59, wherein said apparatus further includes a second measurement unit which measures an intensity of said scattered laser beam, based on said maximum brightness, and measures a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a

scattered laser beam and a relative size of particles.

62. The recording medium as set forth in claim 59, wherein said particles are generated in fabrication of a semiconductor device, and wherein said apparatus further includes a third measurement unit which judges whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device, and which ceases fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

63. The recording medium as set forth in claim 59, wherein said apparatus further includes a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

64. The recording medium as set forth in claim 59, wherein said apparatus further includes a heater for heating a chamber in which said particle is generated, to remove by-products from said chamber.

65. A recording medium readable by a computer, storing a program therein for causing a computer to act as an apparatus for monitoring a size of a particle, said apparatus comprising:

(a) an area detector which detects pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) a counter which counts the number of said pixels detected by said area detector; and

(c) a measurement unit which compares said number of said pixels to a predetermined threshold number to thereby measure a relative size of said particles.

66. The recording medium as set forth in claim 65, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

67. The recording medium as set forth in claim 65, wherein said apparatus further includes a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

68. The recording medium as set forth in claim 65, wherein said apparatus further includes a heater for heating a chamber in which said particle is generated, to remove by-products from said chamber.

69. A recording medium readable by a computer, storing a program therein for causing a computer to act as an apparatus for monitoring a size of a particle, said apparatus comprising:

(a) an area detector which detects pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) a calculator which calculates a total of brightness of said pixels detected

by said area detector; and

(c) a measurement unit which compares said total to a predetermined threshold brightness to thereby measure a relative size of said particles.

70. The recording medium as set forth in claim 69, wherein said area detector first determines a threshold brightness to which brightness of pixels are to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

71. The recording medium as set forth in claim 69, wherein said calculator is comprised of:

(d1) a maximum brightness detector which detects a maximum brightness among brightness of said pixels detected by said area detector; and

(d2) a counter which counts the number of said pixels detected by said area detector,

and wherein said measurement unit compares said maximum brightness or said number of said pixels to a predetermined threshold brightness or a predetermined threshold number to thereby measure a relative size of said particles.

72. The recording medium as set forth in claim 69, wherein said calculator is comprised of:

(d1) a maximum brightness detector which detects a maximum brightness among brightness of said pixels detected by said area detector; and

(d2) a counter which counts the number of said pixels detected by said area detector,

and wherein said measurement unit uses said total and at least one of said maximum brightness an said number of said pixels for measuring a relative size of said particles.

73. The recording medium as set forth in claim 69, wherein said apparatus further includes a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

74. A recording medium readable by a computer, storing a program therein for causing a computer to act as an apparatus for monitoring a size of a particle, said apparatus comprising:

(a) an area detector which detects pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) a first measurement unit which measures an intensity of said scattered laser beam, based on brightness of said pixels detected by said area detector; and

(c) a second measurement unit which measures a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

75. The recording medium as set forth in claim 74, wherein said apparatus further includes a heater for heating a chamber in which said particle is generated, to remove by-products from said chamber.

76. The recording medium as set forth in claim 74, wherein said area detector first determines a threshold brightness to which brightness of pixels are

to be compared, judges whether a brightness of a pixel is equal to or greater than said threshold brightness, and determines pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

77. The recording medium as set forth in claim 74, wherein said particles are generated in fabrication of a semiconductor device, and wherein said apparatus further includes a third measurement unit which judges whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device, and which ceases fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

78. The recording medium as set forth in claim 74, wherein said apparatus further includes a particle counter which counts up each time said particle counter receives a signal from said area detector, and transmits a signal indicative of a count, to said measurement unit.

79. The recording medium as set forth in claim 78, wherein said second measurement unit includes a memory which stores a software program used for calculating a size of a particle in accordance with the equation of Rayleigh scattering, and a threshold size to which a calculated size is to be compared.

80. A recording medium readable by a computer, storing a program therein for causing a computer to carry out a method of monitoring a size of a particle, said method comprising the steps of:

(a) detecting pixels corresponding to an area on which a laser beam having

been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) detecting a maximum brightness among brightness of said pixels detected in said step (a); and

(c) comparing said maximum brightness to a predetermined threshold brightness to thereby measure a relative size of said particles.

81. The recording medium as set forth in claim 80, wherein said step (a) includes the steps of:

(a1) determining a threshold brightness to which brightness of pixels are to be compared;

(a2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(a3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

82. The recording medium as set forth in claim 80, wherein said method further includes the steps of:

measuring an intensity of said scattered laser beam, based on said maximum brightness; and

measuring a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

83. The recording medium as set forth in claim 80, wherein said particles are generated in fabrication of a semiconductor device, and wherein said method further includes the steps of:

judging whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device; and

ceasing fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

84. The recording medium as set forth in claim 83, wherein said method further includes the step of heating a chamber in which said particles are generated, for removing by-products from said chamber.

85. The recording medium as set forth in claim 80, wherein said method further includes the step of counting up each time of receiving a signal transmitted in said step (a), and transmitting a signal indicative of a count.

86. A recording medium readable by a computer, storing a program therein for causing a computer to carry out a method of monitoring a size of a particle, said method comprising the steps of:

(a) detecting pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) counting the number of said pixels detected in said step (a); and

(c) comparing said number of said pixels to a predetermined threshold number to thereby measure a relative size of said particles.

87. The recording medium as set forth in claim 86, wherein said step (a) includes the steps of:

(a1) determining a threshold brightness to which brightness of pixels are to be compared;

(a2) judging whether a brightness of a pixel is equal to or greater than said

threshold brightness; and

(a3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

88. The recording medium as set forth in claim 86, wherein said method further includes the step of counting up each time of receiving a signal transmitted in said step (a), and transmitting a signal indicative of a count.

89. A recording medium readable by a computer, storing a program therein for causing a computer to carry out a method of monitoring a size of a particle, said method comprising the steps of:

(a) detecting pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) calculating a total of brightness of said pixels detected in said step (a); and

(c) comparing said total to a predetermined threshold brightness to thereby measure a relative size of said particles.

90. The recording medium as set forth in claim 89, wherein said step (a) includes the steps of:

(a1) determining a threshold brightness to which brightness of pixels are to be compared;

(a2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(a3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold

brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

91. The recording medium as set forth in claim 89, wherein said particles are generated in fabrication of a semiconductor device, and wherein said method further includes the steps of:

judging whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device; and

ceasing fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

92. The recording medium as set forth in claim 91, wherein said method further includes the step of heating a chamber in which said particles are generated, for removing by-products from said chamber.

93. The recording medium as set forth in claim 89, wherein said method further includes the step of counting up each time of receiving a signal transmitted in said step (a), and transmitting a signal indicative of a count.

94. The recording medium as set forth in claim 89, wherein said step (c) includes the step of storing a software program used for calculating a size of a particle in accordance with the equation of Rayleigh scattering, and a threshold size to which a calculated size is to be compared.

95. The recording medium as set forth in claim 94, wherein said threshold size is equal to or smaller than a minimum diameter among diameters of wirings in a semiconductor device to be fabricated.

96. A recording medium readable by a computer, storing a program therein for causing a computer to carry out a method of monitoring a size of a particle, said method comprising the steps of:

(a) detecting pixels corresponding to an area on which a laser beam having been scattered by particles is incident, based on image data including brightness of pixels, output by a photodetector receiving said scatted laser beam;

(b) measuring an intensity of said scattered laser beam, based on brightness of said pixels detected in said step (c); and

(c) measuring a relative size of said particles, based on said intensity of said scattered laser beam, in accordance with an equation which defines a relation between an intensity of a scattered laser beam and a relative size of particles.

97. The recording medium as set forth in claim 96, wherein said step (a) includes the steps of:

(a1) determining a threshold brightness to which brightness of pixels are to be compared;

(a2) judging whether a brightness of a pixel is equal to or greater than said threshold brightness; and

(a3) determining pixels located adjacent to each other among pixels having been judged to have a brightness equal to or greater than said threshold brightness, as pixels corresponding to an area on which a laser beam scattered by a particle is incident.

98. The recording medium as set forth in claim 96, wherein said particles are generated in fabrication of a semiconductor device, and wherein said method further includes the steps of:

judging whether said relative size of said particles is greater than a predetermined threshold size in order to judge whether said particles would exert harmful influence on a semiconductor device; and

ceasing fabrication of a semiconductor device, if said relative size of said particles has been judged to be greater than said predetermined threshold size.

99. The recording medium as set forth in claim 98, wherein said method further includes the step of heating a chamber in which said particles are generated, for removing by-products from said chamber.

100. The recording medium as set forth in claim 98, wherein said method further includes the step of counting up each time of receiving a signal transmitted in said step (a), and transmitting a signal indicative of a count.

101. The recording medium as set forth in claim 96, wherein said step (c) includes the step of storing a software program used for calculating a size of a particle in accordance with the equation of Rayleigh scattering, and a threshold size to which a calculated size is to be compared.

102. The recording medium as set forth in claim 101, wherein said threshold size is equal to or smaller than a minimum diameter among diameters of wirings in a semiconductor device to be fabricated.